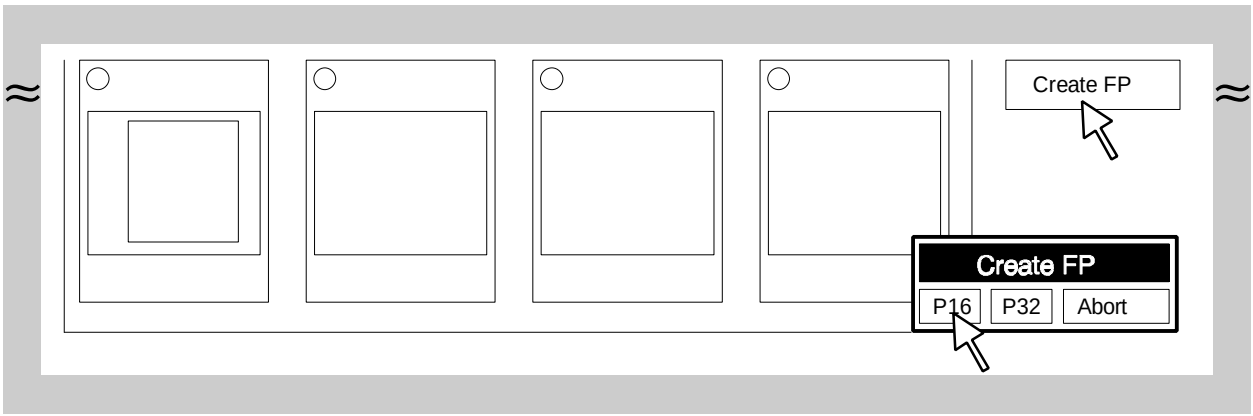
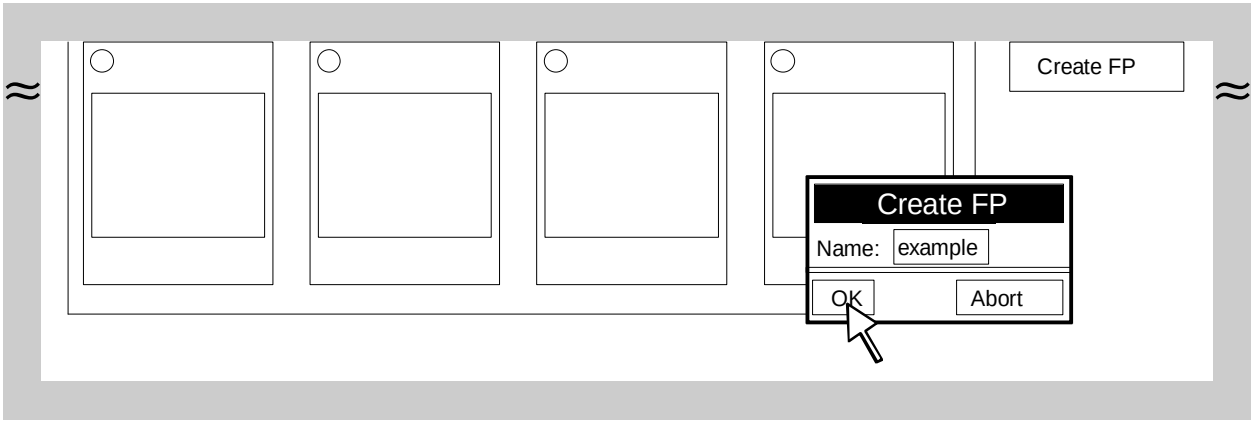
3.2 Example

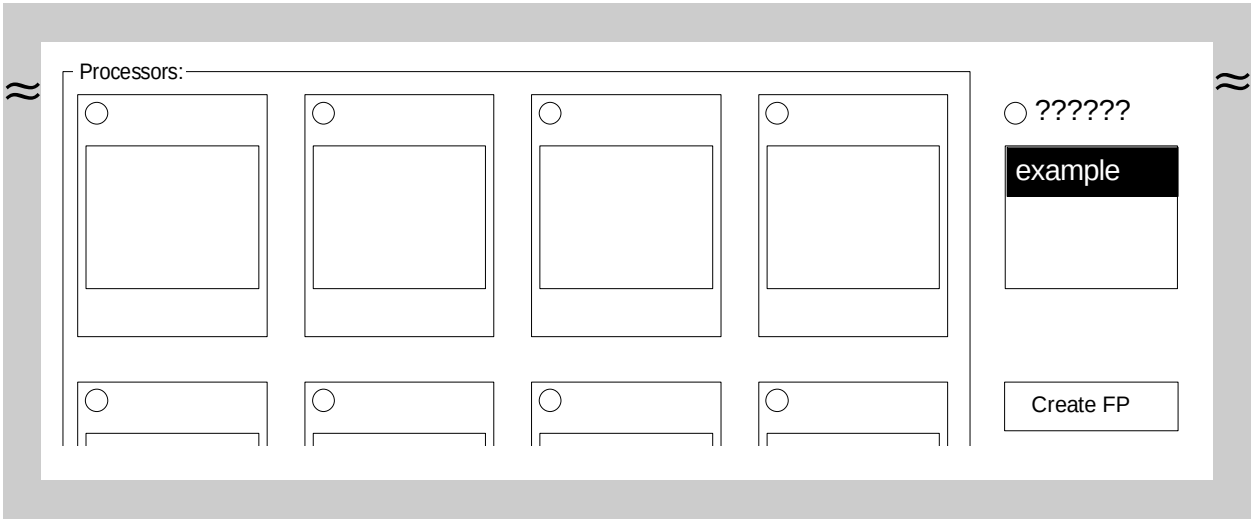
To start off with, the EXAMPLE function package is to be generated. The „Create FP“ field is first selected with the cursor. The „Create FP“ menu then appears. Depending on the processor type, either 16- or 32-bit processing should be selected (P16 in this example).



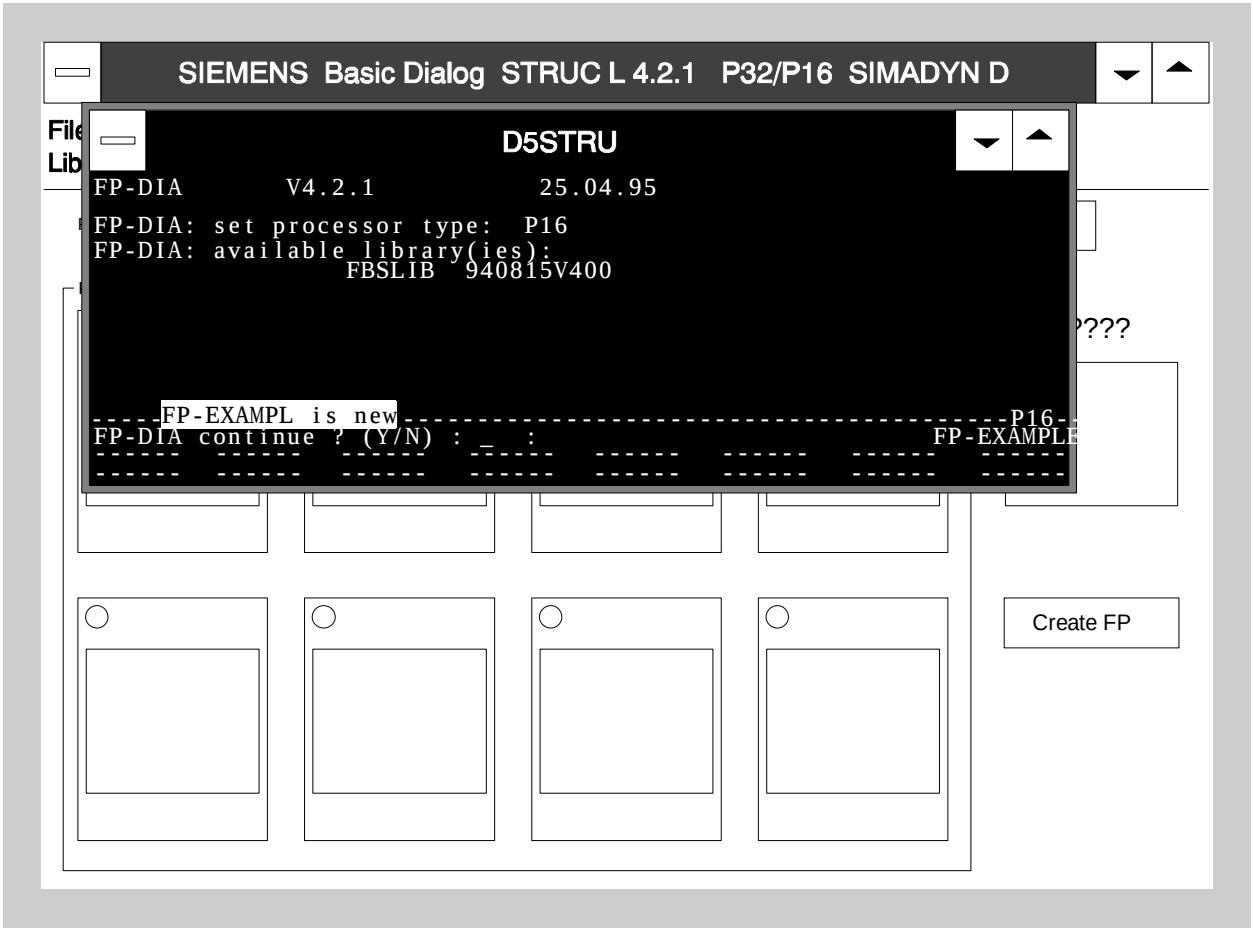
The next menu item appears and prompts the user to enter the function package name.



Thus, the „Create FP“ menu is completed, and the function package name appears in the field above „?????“, as this function package is still not assigned to a specific processor



The „D5STRU“ input window is now automatically opened, and the following is displayed:

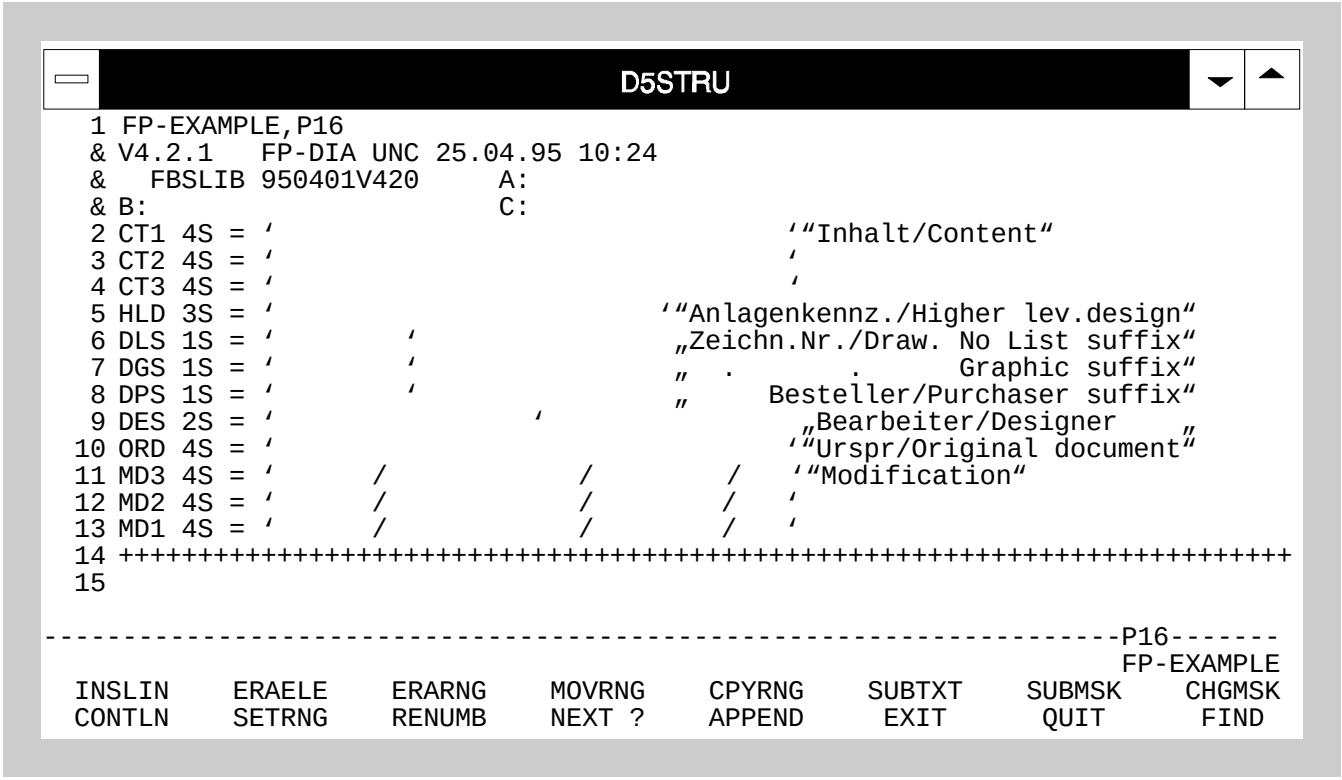


The cursor is located in the line with the prompt asking whether dialog should be continued.

In the following description, characters for the keys (refer to Section 1) are used in the column „key sequence“, which are again briefly explained here:

- Move cursor one line upwards
- Move cursor one line downwards
- Move cursor to the right
- Move cursor to the left
- Enter key
- Scroll forwards
- Scroll backwards
- Escape

Key sequence	Explanations
Y Enter	The dialog should be continued, which was confirmed using the enter key


D5STRU
1 FP-EXAMPLE,P16
& V4.2.1 FP-DIA UNC 25.04.95 10:24
& FBSLIB 950401V420 A:
& B: C:
2 CT1 4S = ‘ ‘“Inhalt/Content“
3 CT2 4S = ‘ ‘
4 CT3 4S = ‘ ‘
5 HLD 3S = ‘ ‘“Anlagenkennz./Higher lev.design“
6 DLS 1S = ‘ ‘ „Zeichn.Nr./Draw. No List suffix“
7 DGS 1S = ‘ ‘ „ . . Graphic suffix“
8 DPS 1S = ‘ ‘ „ Besteller/Purchaser suffix“
9 DES 2S = ‘ ‘ „Bearbeiter/Designer „
10 ORD 4S = ‘ ‘“Urspr/Original document“
11 MD3 4S = ‘ / / / ‘“Modification“
12 MD2 4S = ‘ / / / ‘
13 MD1 4S = ‘ / / / ‘
14 ++
15
P16
FP-EXAMPLE
INSLIN ERAELE ERARNG MOVRNG CPYRNG SUBTXT SUBMSK CHGMSK
CONTLN SETRNG RENUMB NEXT ? APPEND EXIT QUIT FIND

The cursor is located in line 1 under the first letters of the function package name.

The cursor can be moved within the permissible header mask range using the cursor keys (↑ , ← , → , ↓). A jump is made to the last line of the header mask using the key PgDn, and back to the first line using the key PgUp

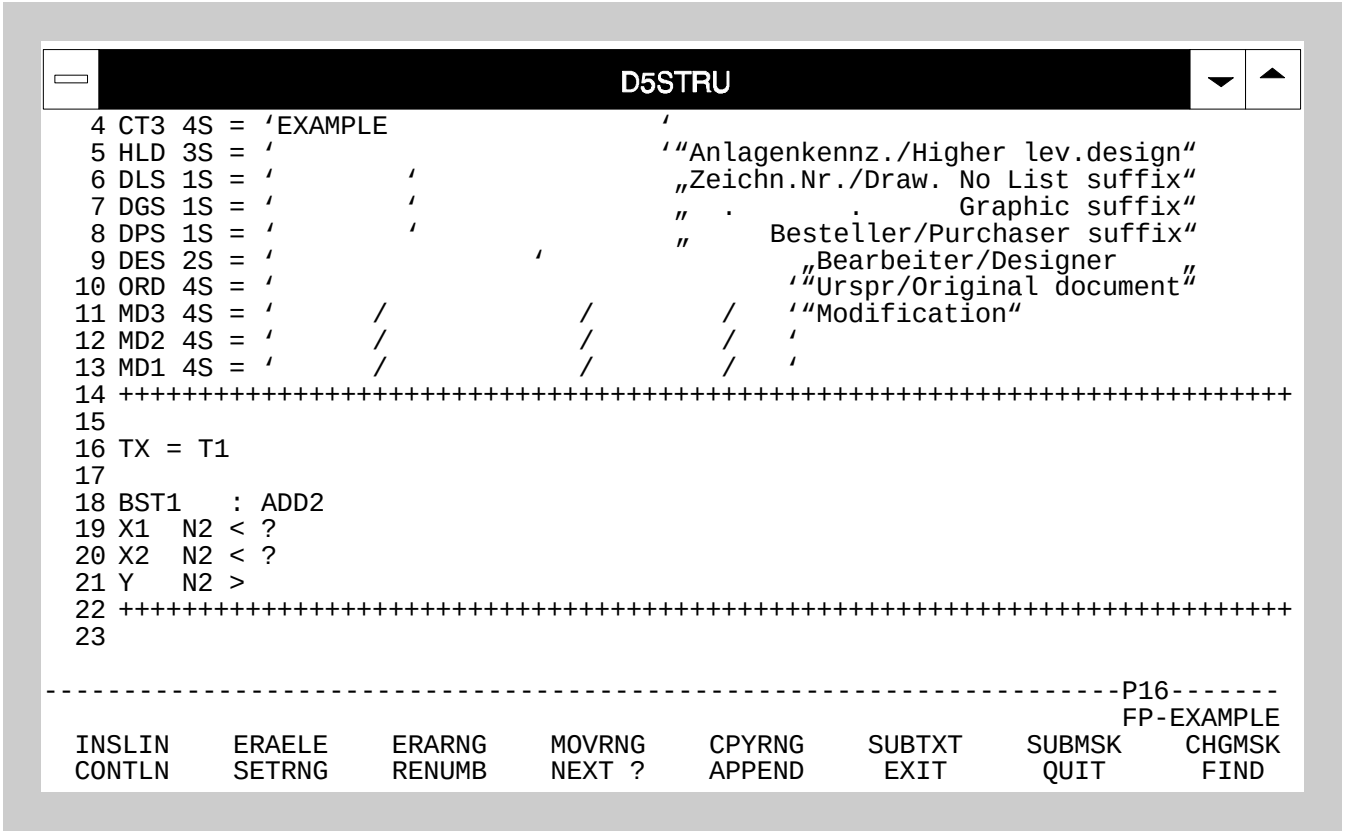
3.3 Insert function block

3.3.1 Insert function block with the keyboard

The example is now continued, and to start off with, a comment is entered in line 2, then new lines are generated and a function block inserted:

Key sequence	Explanations
↓ ↓ ↓ ↓ ↓ ↓	Move 6 lines downwards using the cursor keys
Example	Enter the comment in line 4
PgDn	Jump to line 15 (last line)
Enter TX = T1	A new line is generated (line 16) and „TX = T1“ entered.
Enter Enter	Lines 17 and 18 are generated
BST1 : ADD2 Enter	The empty function block mask ADD2 (block name: BST1) is generated

The window now looks like this:


D5STRU
4 CT3 4S = 'EXAMPLE '
5 HLD 3S = ' '"Anlagenkennz./Higher lev.design"
6 DLS 1S = ' ' „Zeichn.Nr./Draw. No List suffix"
7 DGS 1S = ' ' " . . Graphic suffix"
8 DPS 1S = ' ' " Besteller/Purchaser suffix"
9 DES 2S = ' ' „Bearbeiter/Designer "
10 ORD 4S = ' '"Urspr/Original document"
11 MD3 4S = ' / / / '"Modification"
12 MD2 4S = ' / / / '
13 MD1 4S = ' / / / '
14 ++
15
16 TX = T1
17
18 BST1 : ADD2
19 X1 N2 < ?
20 X2 N2 < ?
21 Y N2 >
22 ++
23
P16
FP-EXAMPLE
INSLIN ERAELE ERARNG MOVRNG CPYRNG SUBTXT SUBMSK CHGMSK
CONTLN SETRNG RENUMB NEXT ? APPEND EXIT QUIT FIND

The cursor is positioned below the first question mark of the function block (input X1 of the function block). An input is expected at the positions with question marks.

Key sequence	Explanations
5% Enter	Input X1 is assigned a constant; the cursor jumps to the next question mark
Enter BST2.Y	The cursor jumps to the next question mark. A connection is established to output Y of block BST2.
Enter Enter Enter	The block mask is no longer completed. Further, a new line is inserted.
END	The end mark of the function package is entered.

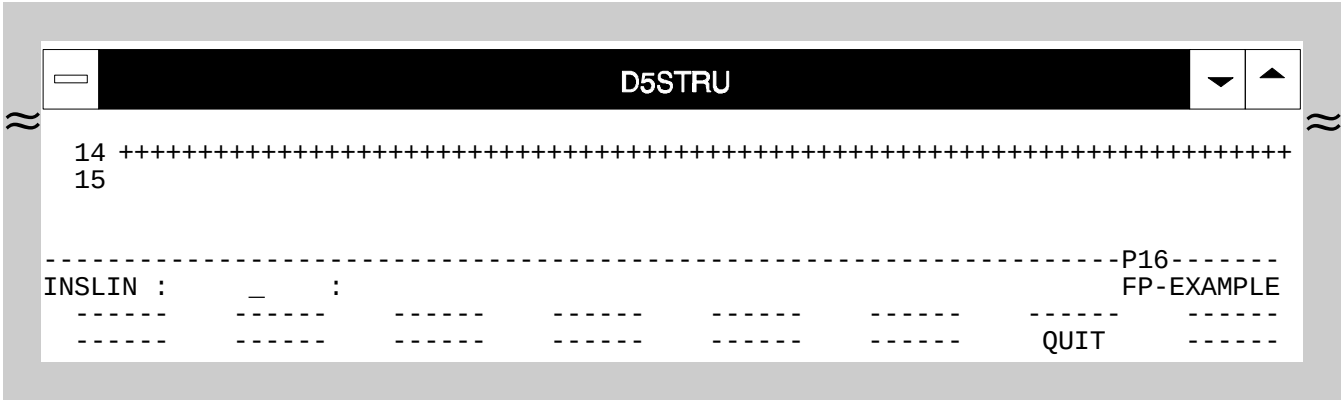
3.3.2 Insert function block using the editor function keys

The result of Section 3.3.1 can also be achieved using the window editor function keys. The procedure in this case is as follows:

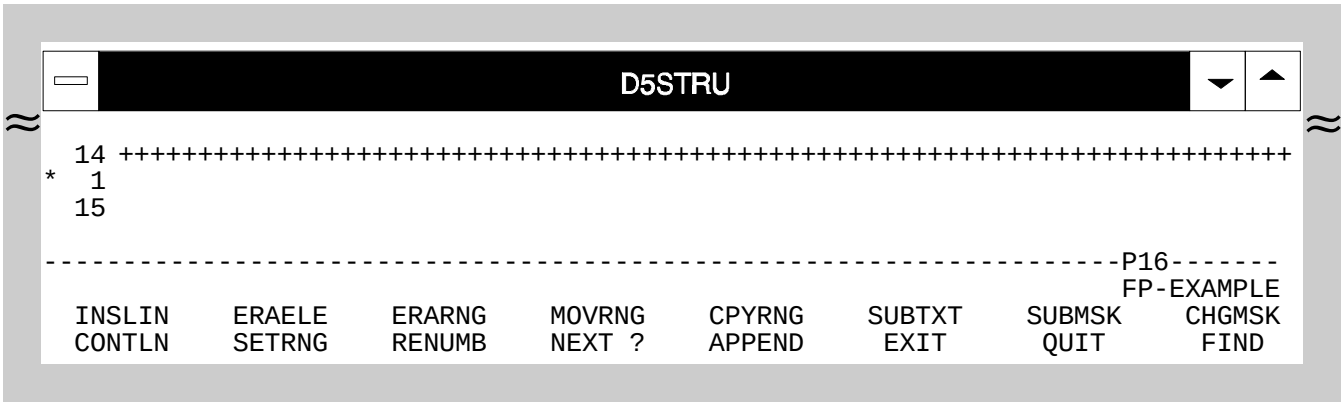
Key sequence	Explanations
▢▢▢▢	Move the cursor 4 lines downwards using the cursor keys (as for Section 3.3.1)
Example	Enter the comment (as for Section 3.3.1)
Pg Dn	Jump to line 15 (last line)

Now, a branch must be made in the area of the editor function keys, which cannot be reached using the cursor keys. Depress the Esc key. A jump is made back to the editor function key area using the cursor keys.

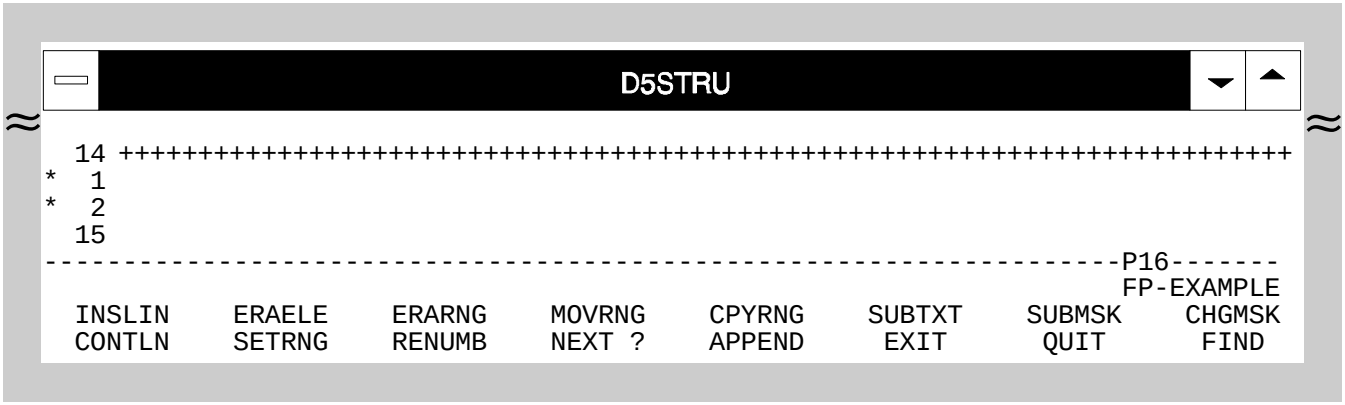
Key sequence	Explanations
Esc INSLIN	Jump to the editor function keys. INSLIN has a light background, which means that this function is executed when confirmed
Enter	Function is confirmed. The function then appears in the 3rd line from below and waits for additional instructions. The cursor is positioned between colons.



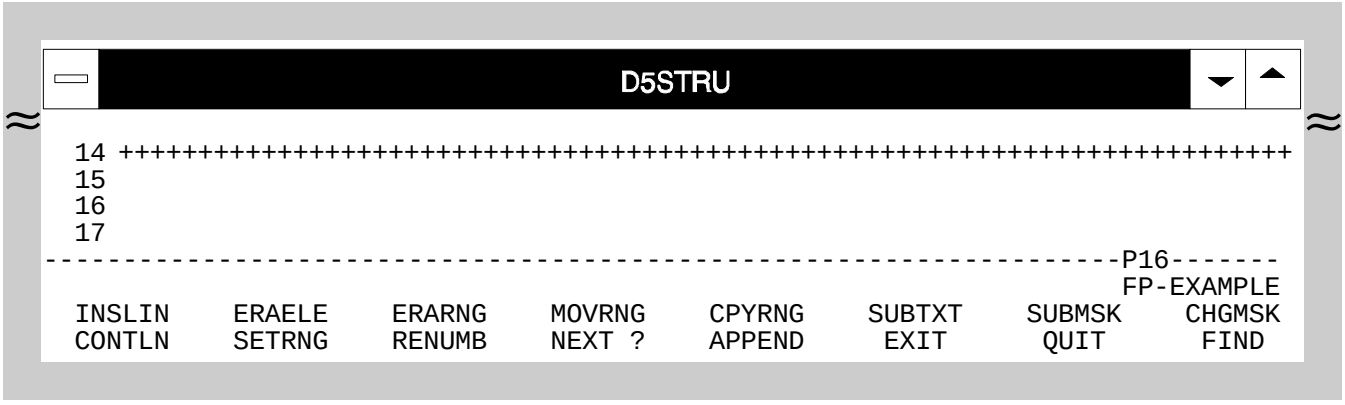
Key sequence	Explanations
Enter	If no additional information is entered, a new line is generated before the actual cursor line position The line is designated with a star.



Key sequence	Explanations
Esc INSLIN Enter 15 Enter	This function generates a new line in front of line 15



Key sequence	Explanations
Esc ® ® ¯ RENUMB Enter	A jump is made to the RENUMB function using this key sequence and the line numbering is then corrected.



The further procedure (inserting the function block) is identical with Section 3.3.1.

3.4 Messages

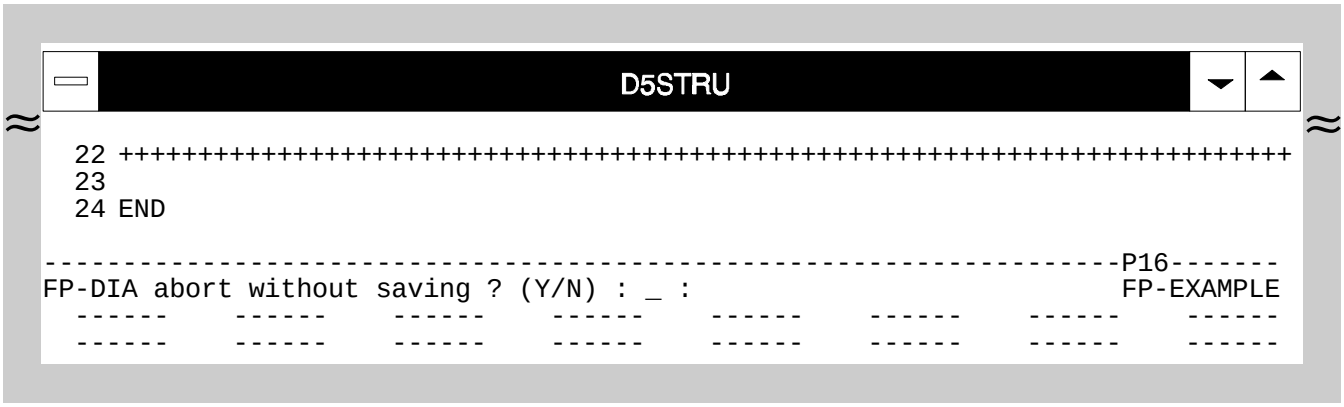
For incorrect or incomplete entries, messages appear in the 4th line from below, which indicate the error in plain text. The corrections should be executed before entry is continued.

3.5 Exiting the input window

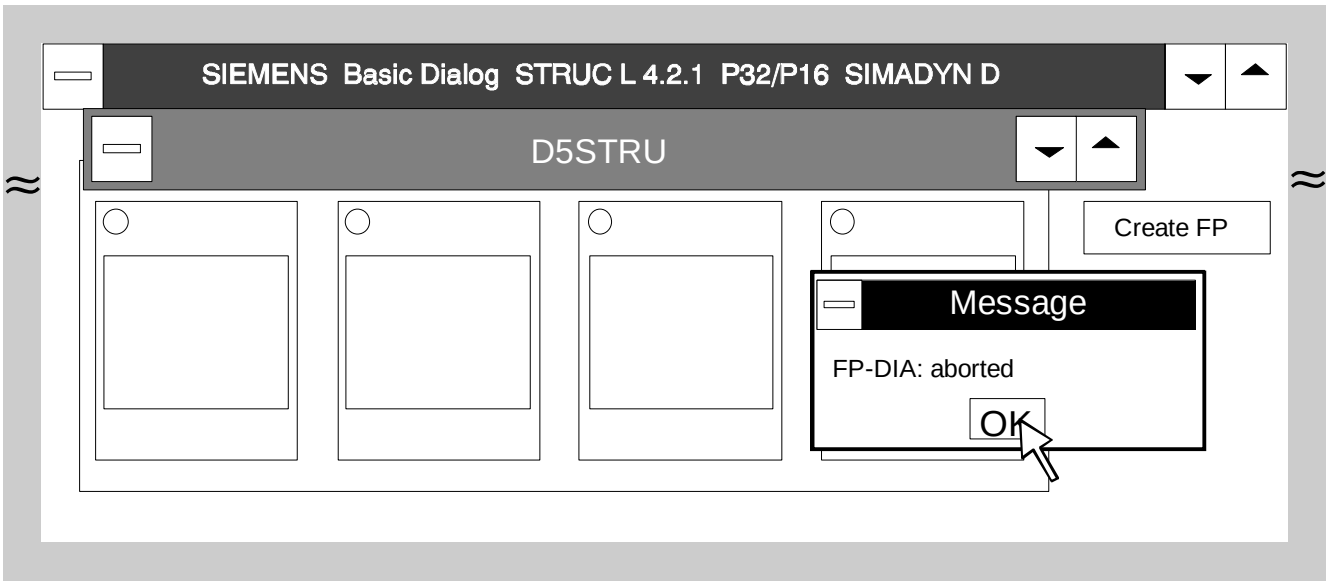
3.5.1 Exiting without storing

The input window can be exited using the QUIT function, if the function package is not to be stored but is to be rejected.

Key sequence	Explanations
Esc ® ® ® ® ® ® QUIT Enter	Jump to the editor function keys. The QUIT function is selected and then acknowledged



Key sequence	Explanations
J Enter	If the question is responded to with Y (yes), then the following message appears



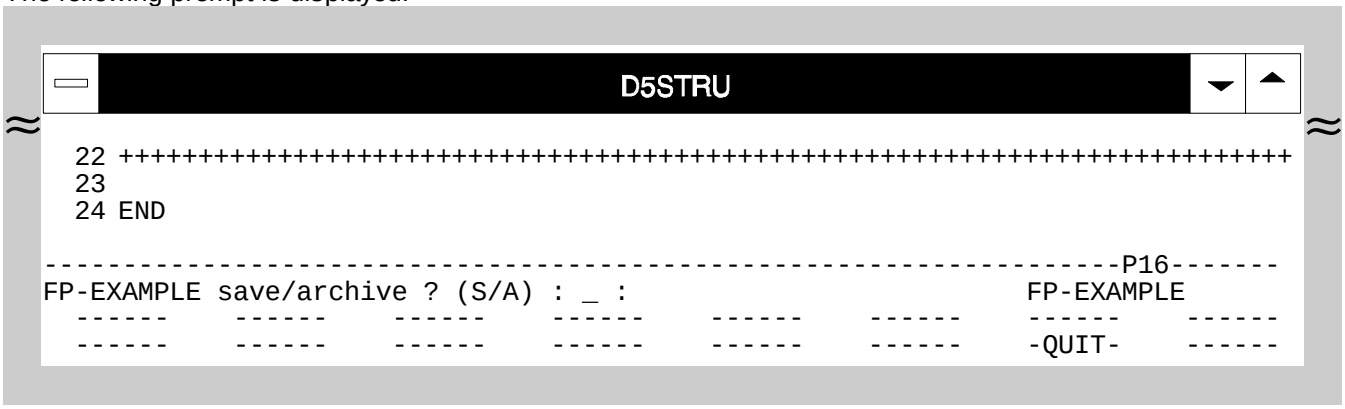
„FP-DIA aborted“ is acknowledged using the cursor, and the program returns to the basic dialog.

Key sequence	Explanations
N Enter	If the question is responded to with N (no), a return is made to the dialog, and the dialog can then be exited using the EXIT function (Section 3.5.2).

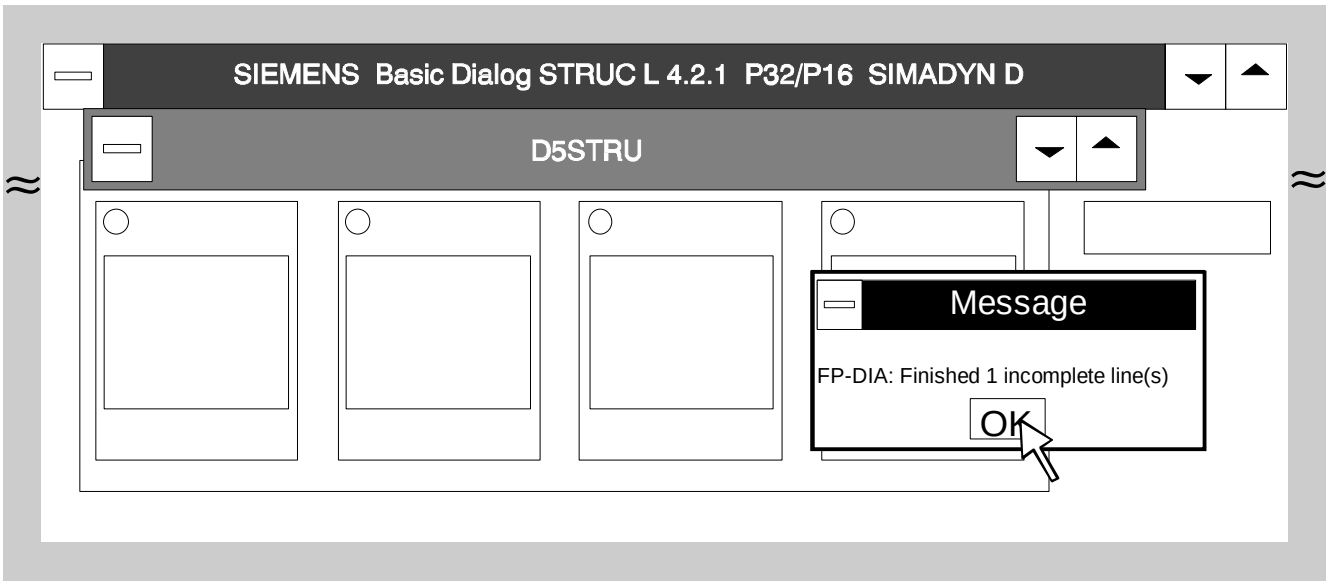
3.5.2 Exit and store

Key sequence	Explanations
Esc ® ® ® ® ® EXIT Enter	The exit function is selected and then subsequently acknowledged.

The following prompt is displayed.



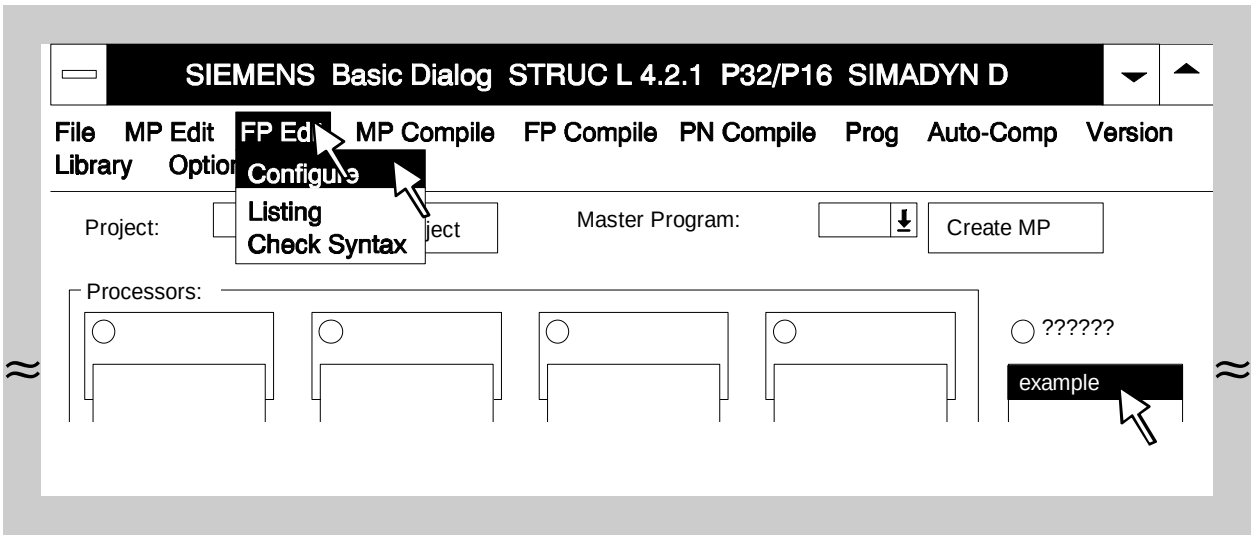
If S (save) is entered, all data entered up until now are saved and dialog can be continued. However, if A (archive) is entered, the following message appears:



Data entered up until then are saved after acknowledgement with „OK“, and the program returns to the basic dialog.

3.6 Calling-up the editor

The editor is called-up via the basic dialog menu bar (FP Edit). The EXAMPLE function package should be selected as example. Click-on the righthand side of the window. The „FP Edit“ menu is selected and the „Configure“ sub-menu item, by clicking on them.

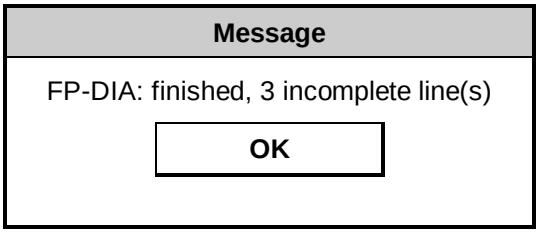


The „D5STRU“ input window then appears. Further processing of a function package is explained in Sections 1 and 3 of the User Manual „STRUC L editor/compiler“, or is already known from Sections 3.3 to 3.5 (example).

The following sub-menu items are offered in the „FP Edit“ menu:

- **Configure**
  The function package is processed in the „D5STRU“ window corresponding to „create FP“.
- **Listing**
  The function package appears in the „D5STRU“ window, however, processing is not possible only data can be read.
- **Check syntax**
  The function package is checked to ensure that it has the correct structure and is complete, and this is followed-up by a message.

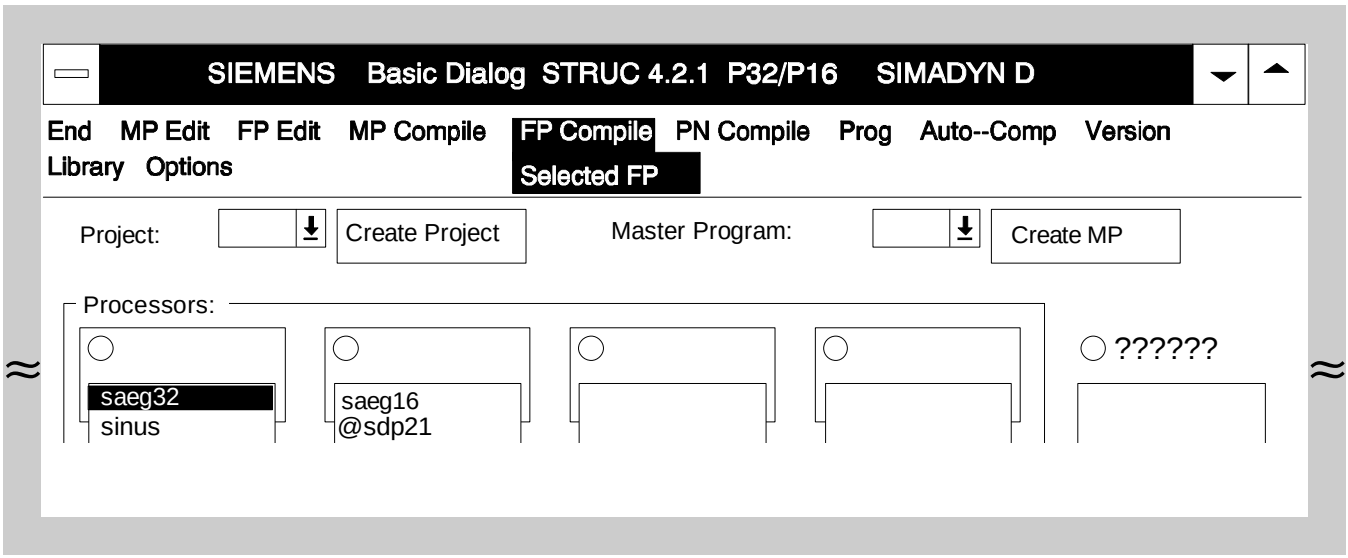
Example of a message window on the screen after ending **FP Edit / Configure.**



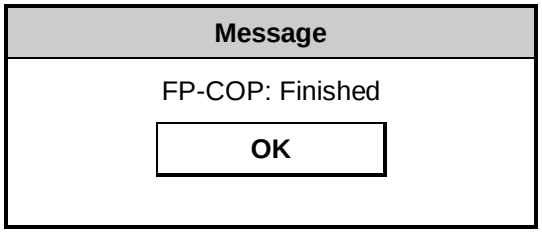
All of these statements in this section are also true for the master program editor (MP Edit).

3.7 Calling-up the compiler

The compiler is called-up using the menu bar of the basic dialog (FP Compile). The required function package must be selected using the mouse before the compiler is started. The compiler is then started with **FP Compile / Selected FP**.



Example for a message window on the screen after ending **FP Compile / Selected FP.**

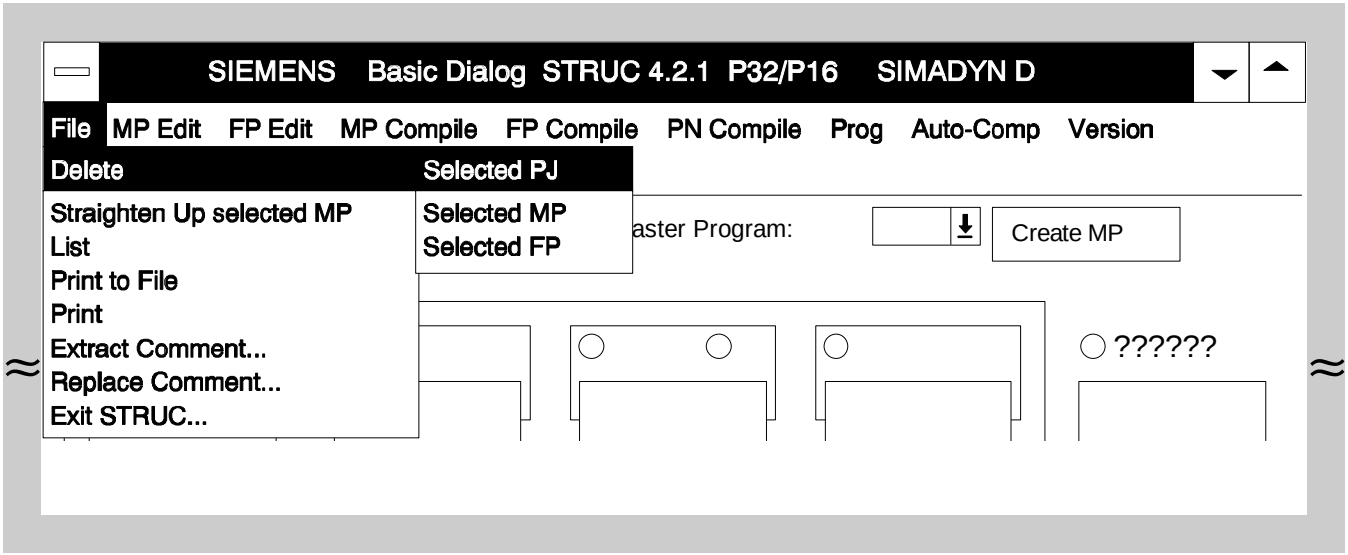


All of the statements of this section are also valid for the master program compiler (MP Compile) and processor program compiler (PN Compile).

3.8 Processing file

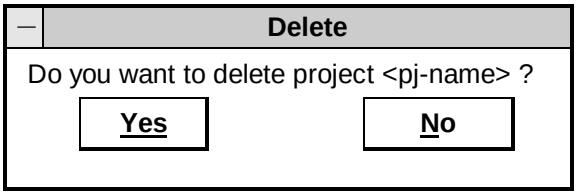
3.8.1 Delete

After clicking in the menu ledge at **File / Delete** the sub-functions **Selected PJ, Selected MP** or **Selected FP** can be selected.

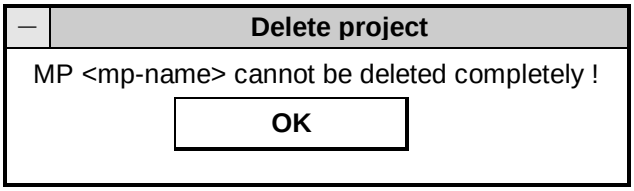


♦ **Delete Project**

After invoking the function **File / Delete / Selected PJ** the following quitting window appears on the screen:



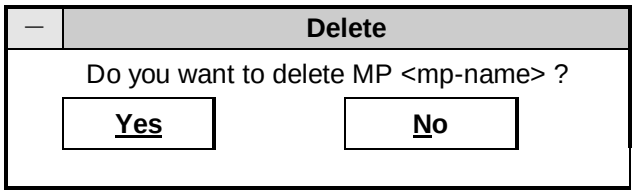
Clicking „Yes“ deletes the project directory with all sub-directories and all unproteced for deleting files. If there are protected files, then an information box is subsequently popped onto screen:



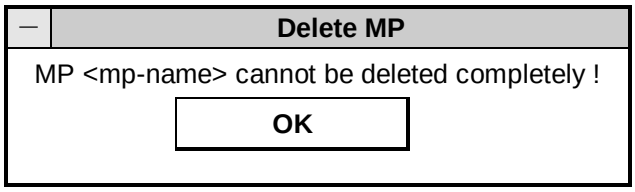
Clicking „No“ cancels the command „Delete“.

♦ **Delete master program**

After invoking the function **File / Delete / Selected MP** the following quitting window appears on the screen:



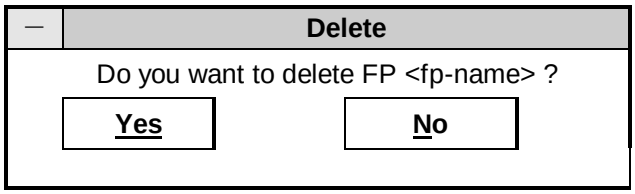
Clicking „Yes“ deletes the master program directory and an unprotected STRUC files. If there are protected files, then an information box is subsequently popped onto screen:



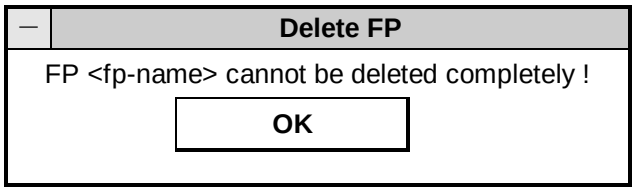
Clicking „No“ cancels the command „Delete“.

♦ **Delete function package**

After invoking the function **File / Delete / Selected FP** the following quitting window appears on the screen:



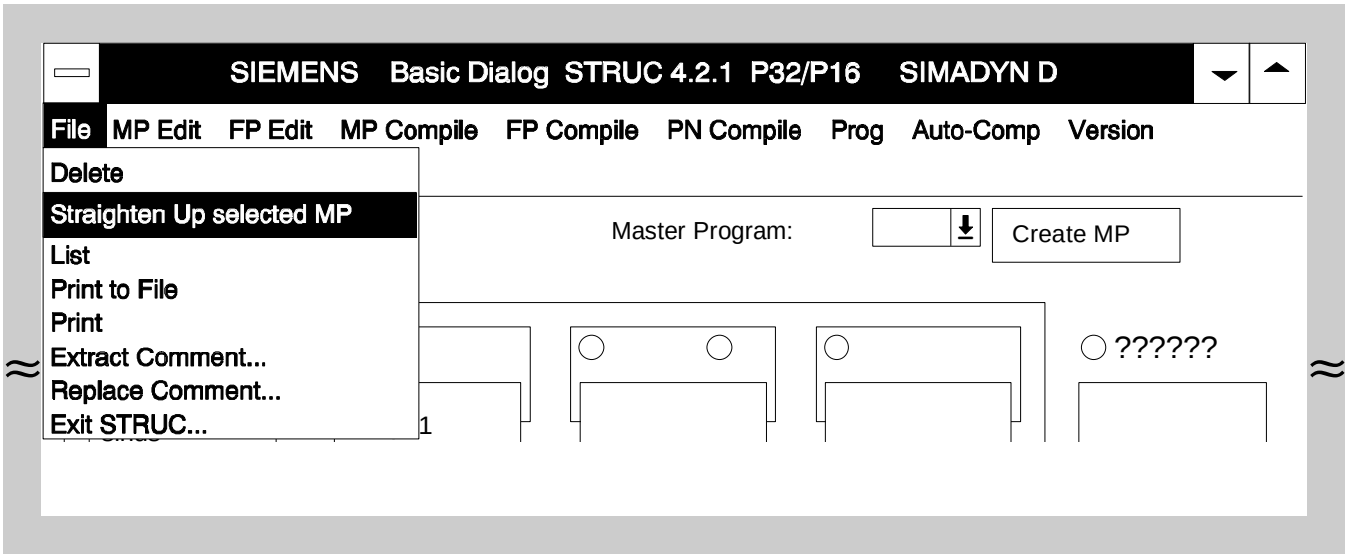
Clicking „Yes“ deletes all with <fp-name> connected and unprotected STRUC files. If there are protected files, then an information box is subsequently popped onto screen:



Clicking „No“ cancels the command „Delete“.

3.8.2 Straighten up selected MP

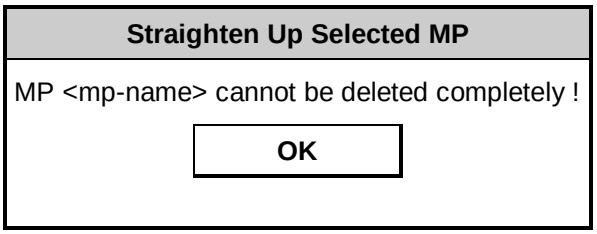
This function is activated by clicking **File / Straighten up selected MP**.



This function does delete all unprotected files except the source files with extension .UMP, .CMP, .OMP, .UFP, .CFP, .OFP, .SFP, .Kxx, .RMP, .RPN, .IPN.

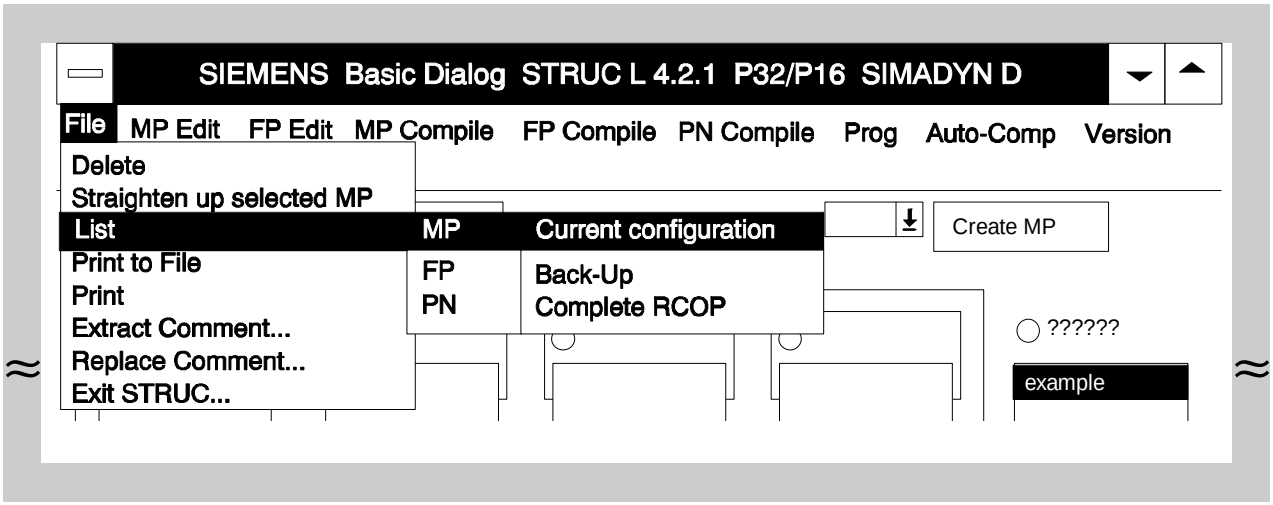
CMP-and CFP files are re-named to UMP-and UFP files according to STRUC conventions.

The command for deleting does not have to be prompted in „Straighten up selected MP“, because of the possibility to generate the proccesor programs everytime from the source files, which cannot be deleted. If there are protected files, then subsequently an information box is popped onto screen:



3.8.3 Create listings

After clicking in the menu ledge at **File / List** the sub-functions **MP, FP** or **PN** with their corresponding sub-functions can be selected.



The selection of the panels can also be implemented via **cursor keys** ↓ and **Return** ↵. Invoke the function **File** by pressing the key combination **Alt + f**. Entries using the mouse and per keyboard can also be mixed. Key actions can be rescinded with the **ESC key** Esc.

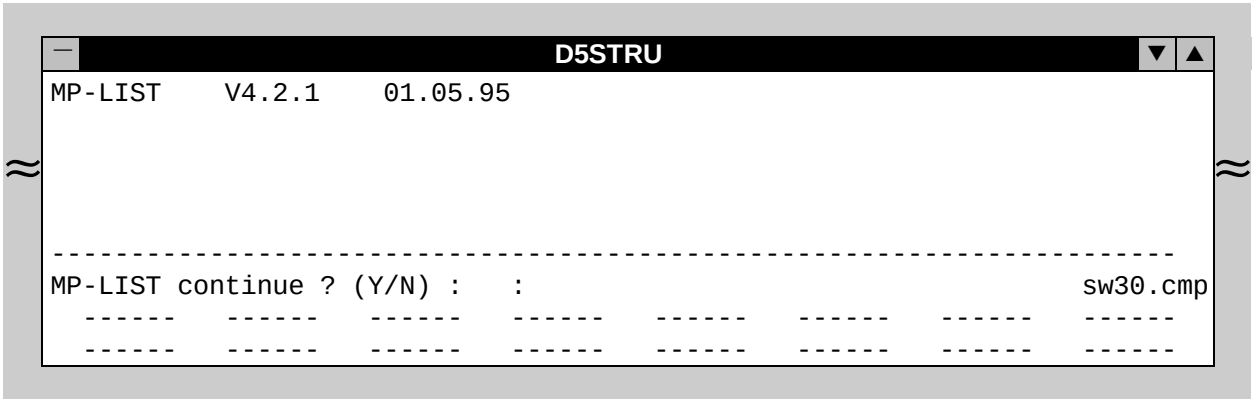
3.8.3.1 File / List / MP

The invocation of the sub-functions in **File / List / MP** is implemented as described in Section 3.8.3.

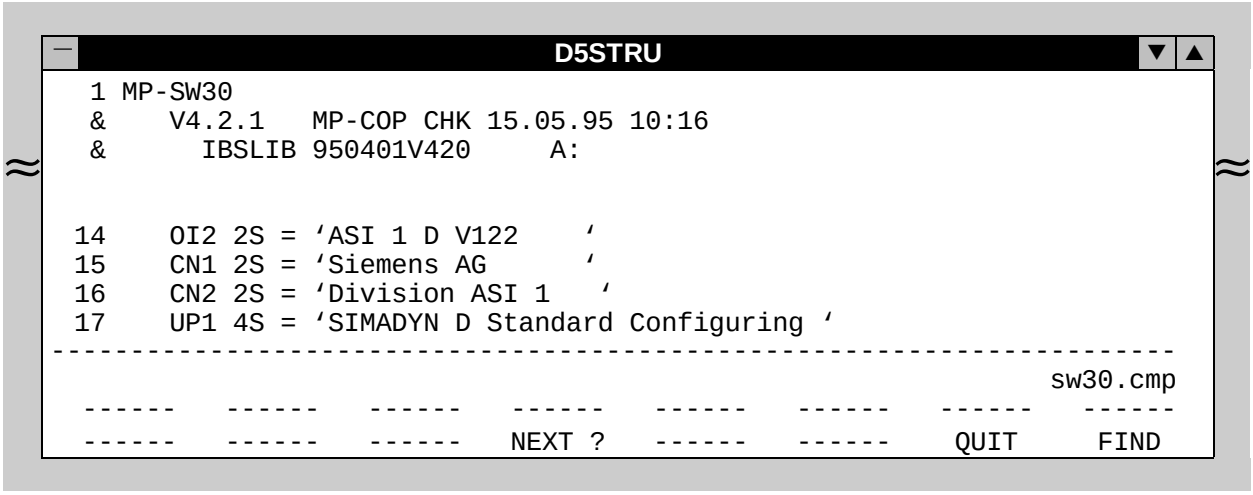
The following sub-functions can therefore be selected:

Delete ➢		
List ➢	**MP**	**Current Configuration**
Print to File ➢	**FP**	**Back-Up**
Print ➢	**PN**	**Complete RCOP**
Extract Comment...		
Replace Comment...		
Exit STRUC ...		

The following window appears after the start of the function.



The selected master program is displayed after acknowledging with ''Y''.

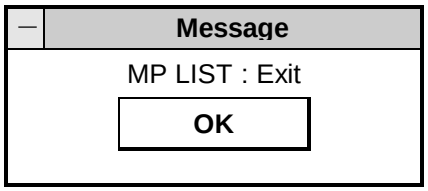

D5STRU
1 MP-SW30
& V4.2.1 MP-COP CHK 15.05.95 10:16
& IBSLIB 950401V420 A:
14 OI2 2S = 'ASI 1 D V122 '
15 CN1 2S = 'Siemens AG '
16 CN2 2S = 'Division ASI 1 '
17 UP1 4S = 'SIMADYN D Standard Configuring '
sw30.cmp
NEXT ?
QUIT
FIND

The cursor is located in the left-hand upper corner of the window after the start of the function. The cursor can be moved line by line with the **cursor keys** ↓ and ↑ and page by page with the keys Pg Up and Pg Dn.
Use the **ESC key** Esc to branch to the footer menu line for function selection. The function NEXT ? is initially selected. Use the **cursor keys** → and ← to branch to the other functions QUIT and FIND and back. Execute the function with **Return** ↵. The functions can also be directly invoked with the function keys:

<SHIFT> <F4> ⇒ NEXT?
<SHIFT> <F7> ⇒ QUIT
<SHIFT> <F8> ⇒ FIND

NEXT ? : This function permits branching to the next question mark in the text. The question mark generally implies incomplete entries or STRUC L compiler error messages.

QUIT : The function QUIT closes the function **File / List / MP**, when the prompt **MP List Abort** (Y/N) is acknowledged with ''Y''. A message window is popped onto screen after exiting.



FIND : The function FIND searches for text strings in the selected listing. The search string must be enclosed in apostrophes '*Search String*'.

♦ **File / List / MP / Current Configuration**

☞ **Warning** : This function is only available when the corresponding file mp_name.cmp/.ump from the original configuring, is located in the path.

The mouse invokes this function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence:
Alt + f → ↓ → ↵ → ↵ → ↵

An MP must be selected before the function is invoked.

The program listing is not shown here, since it is a "standard" STRUC L listing. The structure and contents can be seen in the corresponding STRUC L documentation.

♦ **File / List / MP / Back-Up**

☞ **Warning** : This function is only available when the corresponding file mp_name.omp is located in the path.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence: **Alt + f** → ↓ → ↵ → ↵ → ↓ → ↵

The program listing is not shown here, since it is a "standard" STRUC L listing. The structure and contents can be seen in the corresponding STRUC L documentation.

♦ **File / List / MP / Complete RCOP**

☞ **Warning** : This function is only available when the corresponding file mp_name.rmp was created with the function **Decompile / MP**.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence: **Alt + f** → ↓ → ↵ → ↵ → ↓ → ↓ → ↵

The program listing is not shown here, since it is a "standard" STRUC L listing, however without comments.
The structure and contents can be seen in the corresponding STRUC L documentation.

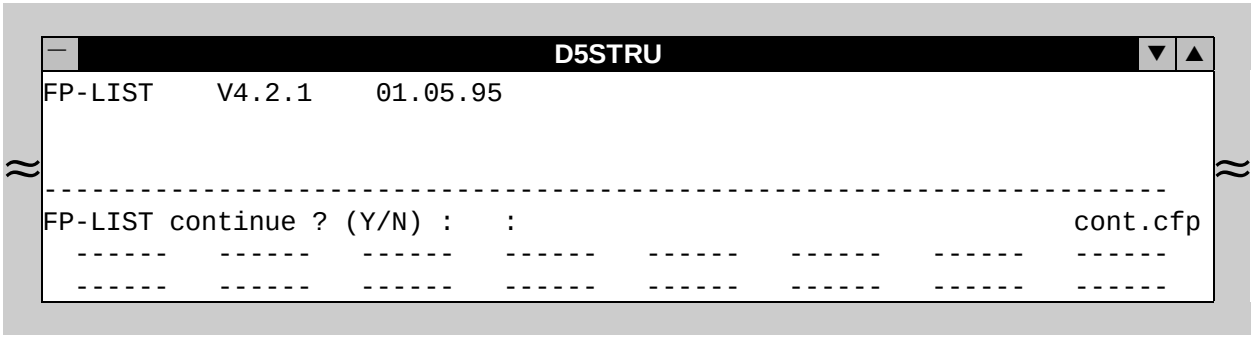
3.8.3.2 File / List / FP

The invocation of the sub-functions in **File / List / FP** is implemented as described in Section 3.8.3.

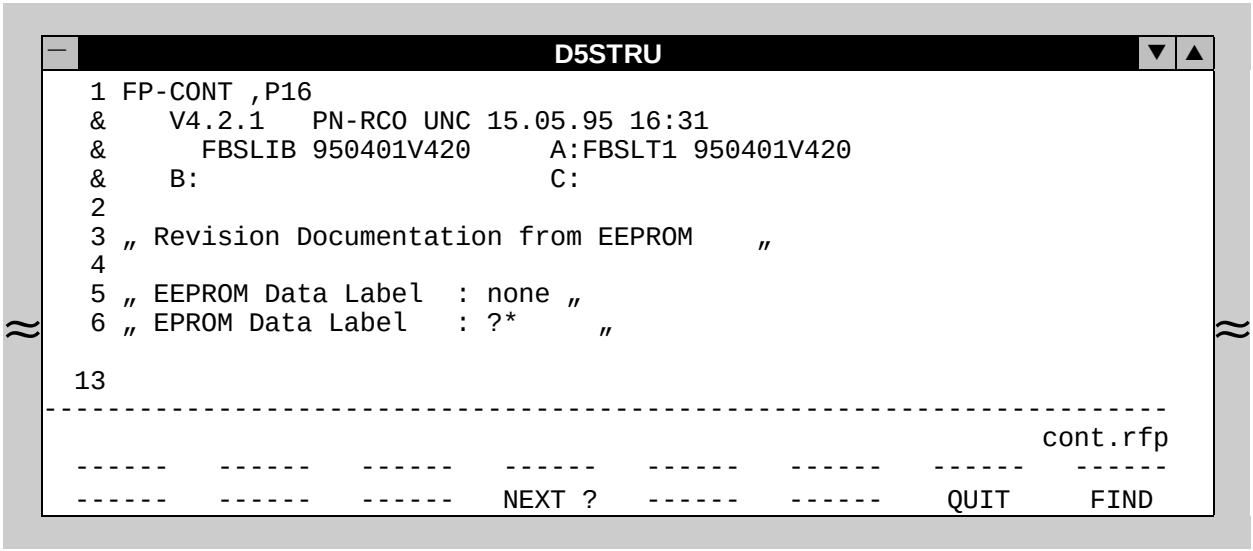
The following sub-functions can therefore be selected:

File		
Delete ➢		
List ➢	MP	
Print to File ➢	FP	Current Configuration
Print ➢	PN	Back-Up
Extract Comment...		MAP Listing
Replace Comment...		Complete RCOP
Exit STRUC ...		RCOP Revisions

The following window appears after the start of the function **File / List / FP.**



The selected function packet is displayed after acknowledging with ''Y''.

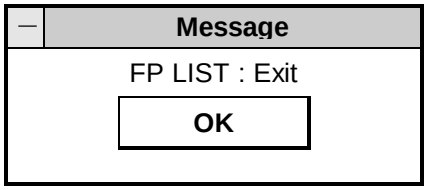


The cursor is located in the upper left-hand corner of the window after the start of the function. The cursor can be moved line by line with the **cursor keys** ↓ and ↑ and page by page with the keys Pg Up and Pg Dn.
Branch to the footer menu line with the **ESC key** Esc for the function selection. The function NEXT ? is initially selected. Use the **cursor key** → and ← to branch to the other functions QUIT and FIND and back. The function is executed with **Return** ↵. The functions can also be directly invoked via the function keys:

<SHIFT> <F4> ⇒ NEXT?
<SHIFT> <F7> ⇒ QUIT
<SHIFT> <F8> ⇒ FIND

NEXT ? : This function permits branching to the next question mark in the text. The question mark generally implies incomplete entries or error messages from the STRUC L compiler.

QUIT : The function QUIT exits the function **File / List / FP**, when the prompt **FP List abort** (Y/N) is acknowledged with „Y“. A message window is popped onto screen after exiting.



FIND : The function FIND searches for text strings in the selected listing. The text strings must be enclosed in apostrophes ‘Text *String*’.

♦ **File / List / FP / Current Configuration**

☞ **Warning** : This function is only available when the corresponding file fp_name.cfp / .ufp, from the original configuring, is located in the path.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence:
Alt + f → ↓ → ↵ → ↓ → ↵ → ↵

An FP must be selected before invoking the function.

The program listing is not shown here, since it is a "standard" STRUC L listing. Structure and contents can be seen in the corresponding STRUC L documentation.

♦ **File / List / FP / Back-Up**

☞ **Warning** : This function is only available when the corresponding file fp_name.ofp, from the original configuring, is located in the path.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence:
Alt + f → ↓ → ↵ → ↓ → ↵ → ↓ → ↵

The program listing is not shown here, since it is a "standard" STRUC L listing. Structure and contents can be seen in the corresponding STRUC L documentation.

♦ **File / List / FP / MAP Listing**

☞ **Warning** : This function is only available when the corresponding file fp_name.mfp, from the original configuring, is located in the path.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence:
Alt + f → ↓ → ↵ → ↓ → ↵ → ↓ → ↓ → ↵

The program listing is not shown here, since it is a "standard" STRUC L MAP listing. Structure and contents can be seen in the corresponding STRUC L documentation.

♦ **File / List / FP / Complete RCOP**

☞ **Warning** : This function is only available when the corresponding file fp_name.sfp has been generated with the function **Decompile / FP / Complete RCOP Generation**.

The mouse invokes the function as described in Section 3.8.3.

The invocation with the keyboard consists of the following sequence:
Alt + f → ↓ → ↵ → ↓ → ↵ → ↓ → ↓ → ↓ → ↵

The program listing is not shown here, since it is a "standard" STRUC L listing, however without comments. Structure and contents can be seen in the corresponding STRUC L documentation.